

ABSTRACT

5 A lightweight bearing and wave gear drive are provided.
An outer or inner bearing ring of the bearing has fixing holes to enable
the ring to be attached to another member. The parts of the bearing on
which raceway surfaces are formed are made of an iron-based material,
while the main bearing ring member is formed of a lightweight material
10 that is lighter than the iron-based material. Surface portions that
constitute fixing bolt seats are plated to increase the strength of such
portions. The wave gear drive includes a rigid internal gear, a flexible
external gear located inside the internal gear, and a wave generator
located inside the external gear. The internal and external gears are
15 coupled by the lightweight bearing in a way that allows the gears to
rotate relative to each other.